IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of: Hal Hjalmar Ottesen et al.	§	
	§	Group Art Unit: 2173
Serial No.: 09/870,803	§	
Confirmation No.: 1274	§	
	§	Examiner: Dennis G. Bonshock
Filed: May 31, 2001	§	
For: Location Predictive Restoration of Compressed Images Stored on a Hard Disk Drive With Soft and Hard Errors	§	

MAIL STOP
APPEAL BRIEF - PATENTS
Commissioner for Patents
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Sept. 11, 2006 /Joseph Jong/
Date Joseph Jong

Dear Sir:

APPEAL BRIEF (REVISED IN RESPONSE TO NOTICE OF NON-COMPLIANT APPEAL BRIEF DATED AUGUST 11, 2006)

Applicants submit this Revised Appeal Brief to the Board of Patent Appeals and Interferences on appeal from the decision of the Examiner of Group Art Unit 2173 dated September 7, 2005, finally rejecting claims 1-28. The final rejection of claims 1-28 is appealed. This Revised Appeal Brief is submitted in response to the Notice of Non-Compliant Appeal Brief dated August 11, 2006 and is believed to be timely. The fee of $500.00 for filing this appeal brief has been previously charged to Deposit Account No. 09-0465. While no fees are believed due, the Commissioner is hereby authorized to charge counsel's Deposit Account No. 09-0465/ROC920010046US1 for any fees, including extension of time fees or excess claim fees, required to make this submission timely and acceptable to the Office.

TABLE OF CONTENTS

Real Party in Interest

The present application has been assigned to International Business Machines Corporation, Armonk, New York.

Related Appeals and Interferences

Applicant asserts that no other appeals or interferences are known to the Applicant, the Applicant's legal representative, or assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

Status of Claims

Claims 1-28 are pending in the application. Claims 1-28 were originally presented in the application. Claims 1-28 stand finally rejected as discussed below. The final rejections of claims 1-28 are appealed. The pending claims are shown in the attached Claims Appendix.

Status of Amendments

All claim amendments have been entered by the Examiner. No amendments to the claims were proposed after the final rejection.

Summary of Claimed Subject Matter

Claimed embodiments of the present invention generally provide method, apparatus and tangible signal bearing medium for processing multimedia data which improve server performance in rendering multimedia data. (Page 4, paragraph [0010]). In one aspect, a method is provided for processing multimedia data without requiring utilization of the hard disk drive's data recovery procedure when soft or hard errors are encountered in connection with reading of the multimedia data from the hard disk drive. *Id.*

CLAIM 1 - INDEPENDENT

A method for processing multimedia data, comprises indexing the multimedia data to an i by j matrix, and storing a plurality of odd/even index sequences of the i by j matrix on a hard disk drive having a plurality of logic blocks, wherein at least two odd/even index sequences are stored in separate logic blocks of the hard disk drive. See Figure 3, (Steps 314, 316, and 318) and Specification, Page 8, paragraph [0030] and Page 9, paragraph [0032]. In one aspect, each of the index sequences may be separately stored in respective logic blocks. Specification, Page 9, paragraph [0032]. In another aspect, each index sequence may be stored in one or more logic blocks on the hard disk drive, and each logic block contains portions of at most two different index sequences. *Id*. The method may further comprise retrieving data comprising the stored index sequences from the hard disk drive, and reconstructing the i by j matrix utilizing odd/even index sequencing of the retrieved data. Specification, Page 10, paragraph [0033]. The method may further comprise disabling a data recovery procedure programmed on the hard disk drive. *Id*.

CLAIM 12 - INDEPENDENT

A tangible signal bearing medium comprises a program which, when executed by a processor, performs the above method for processing multimedia data. (See above regarding claim 1, and Specification, Pages 6-7, paragraph [0025]).

CLAIM 19 - INDEPENDENT

An apparatus for processing multimedia data comprises a processor (212), a memory (214) connected to the processor, and one or more storage devices (224) for storing multimedia data connected to the processor. See Figure 2 and Specification, Pages 7-8, paragraph [0027]. The processor is configured to perform the above method for processing multimedia data. *Id.*

CLAIM 27 - INDEPENDENT

A method for processing multimedia data comprises retrieving data from a data storage device, wherein the data comprises a plurality of odd/even index sequences of an i by j matrix representing multimedia data, wherein at least two odd/even index sequences are stored in at least two respective logic blocks on a hard disk drive, and reconstructing the i by j matrix utilizing odd/even index sequencing of the retrieved data. See Figure 5, (Steps 510, 522), and Specification, Page 10, paragraph [0033]. The method may further comprise, prior to retrieving the data, disabling a data recovery procedure programmed on the hard disk drive, and wherein the reconstructing step further comprises, when a logic block is flawed, replacing data contained in one or more portions of the index sequences contained in the flawed logic block with at least one of a fixed value and an interpolated value. *Id.*; See also, Specification Page 11, paragraph [0037].

Grounds of Rejection to be Reviewed on Appeal

1. Claims 3, 13, 20 and 28 rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement.

2. Claims 12, 14, 16, 17 and 25 stand rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter.

3. Claims 1, 2, 4-9, 12, 14-17, 19, 21, 22 and 24-27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Ding* (U.S. Pat. No. 5,883,323, hereinafter *Ding*) and *Law* (U.S. Pat. No. 5,671,020, hereinafter *Law*).

4. Claims 3, 10, 11, 13, 18, 20, 23, and 28 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Oyamada et al.*, (U.S. Pat. No. 5,617,333, hereinafter *Oyamada*), *Law*, and *Ding*.

ARGUMENTS

1. The Examiner erred in rejecting claims 3, 13, 20 and 28 under 35 U.S.C. 112, first paragraph.

The Applicable Law

The examiner has the initial burden to establish a reasonable basis to question the enablement provided for the claimed invention. *In re Wright*, 999 F.2d 1557, 1562, 27 USPQ2d 1510, 1513 (Fed. Cir. 1993) (examiner must provide a reasonable explanation as to why the scope of protection provided by a claim is not adequately enabled by the disclosure). A specification disclosure which contains a teaching of the manner and process of making and using an invention in terms which correspond in scope to those used in describing and defining the subject matter sought to be patented must be taken as being in compliance with the enablement requirement of 35 U.S.C. 112, first paragraph, unless there is a reason to doubt the objective truth of the statements contained therein which must be relied on for enabling support. MPEP 2164.04.

The Examiner's Argument

The Examiner states that:

> "The claims were amended to include the limitation of disabling data recovery on the hard disk, prior to retrieving data, however, there was no support for this limitation pointed to by the applicant, nor could the examiner find any support in the specification." (Final Office Action dated 02/24/2006, Page 2-3).

Applicants' Response to the Examiner's Argument

Applicants respectfully submit that the specification clearly provides support and teaches such features in paragraph [0033] which states that:

> "The method 500 begins at step 502 and proceeds to step 510 to access and read the image data on the HDD. The HDD's data recovery procedure is disabled during performance of the method 500."

Furthermore, the specification is clearly directed, in one aspect, to "processing multimedia data without requiring utilization of the hard disk drive's data recovery procedure when soft or hard errors are encountered in connection with reading of the multimedia data from the hard disk drive." (Specification paragraph [0024]).

Therefore, Applicants believe that this rejection is improper and respectfully request withdrawal of the rejection.

2. The Examiner erred in rejecting claims 12, 14, 16, 17 and 25 under 35 U.S.C. § 101.

The Applicable Law

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title. 35 U.S.C. § 101. As stated in MPEP 2106 (IV) (B) (1) (a), "a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory."

The Examiner's Argument

The Examiner argues that

> "the 'tangible signal bearing medium' of claim 12 and its dependents, is referred to in the specification at page 7 which indicates that the 'medium' can be interpreted as 'information conveyed to a computer by a communications medium'. Such an embodiment can include 'information downloaded from the Internet and other networks'. Thus it is clear that the 'medium' claims are intended to be claims of mere information." (Final Office Action dated 02/24/2006, Page 3).

Applicants' Response to the Examiner's Argument

Applicants respectfully submit that that the recitation of "tangible" in the claims clearly removes the claims from reading on intangibles such as signals or mere information. Amending the claims to include "tangible" is, in the experience of the

Applicants, an amendment sanctioned by the PTO's quality review branch, which places the claims within patentable statutory subject matter. Further, Applicants respectfully submit that the Examiner's argument appears to ignore the recitation of "tangible" in the claims even though the passages in the specification cited by the Examiner also clearly include examples of tangible media such as CD'ROM disks, floppy disks and hard drives. Therefore, claims 12, 14, 16, 17 and 25 under 35 are directed to statutory subject matter under 35 U.S.C. § 101. Accordingly, Applicants request withdrawal of this rejection.

3. The Examiner erred in rejecting claims 1, 2, 4-9, 12, 14-17, 19, 21, 22 and 24-27 under 35 U.S.C. § 103(a) as being unpatentable over *Ding* and *Law.*

The Applicable Law

The Examiner bears the initial burden of establishing a *prima facie* case of obviousness. *See* MPEP § 2142. To establish a *prima facie* case of obviousness three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one ordinary skill in the art to modify the reference or to combine the reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *See* MPEP § 2143. The present rejection fails to establish at least the first and third criterion.

The References

Ding is directed at improving the efficiency of computing inverse discrete cosine transforms utilized in video applications and discloses a system and method for computing inverse discrete cosine transforms in which an array of coefficients is divided into two groups wherein a first algorithm is applied to coefficients in one of the two groups using even/odd indexing. (*Ding*, Abstract). *Ding* discloses a partial odd/even indexing of a coefficient matrix in computing regional inverse discrete cosine transform (IDCT) coefficients. (*Ding*, column 4, line 40 through column 5, line 15 and in Figure 7.) A regional IDCT algorithm is applied to all coefficients in the grouped portion of the array of DCT coefficients, while IDCT computations are applied only to non-zero

coefficients of the remaining non-grouped coefficients. *Id*. The results of these operations are combined and/or mapped to form the output array of spatial data. *Id*. The DCT coefficients and the resulting spatial data may be stored within a memory of the video encoder or decoder system. *Id*.

Law discloses a system for improving video filter processing, wherein the system has a data register, instead of a standard crossbar network, for providing data values to a parallel processing array, and wherein the data register comprises a memory buffer having a first and second memory modules. (*Law*, Col. 2 lines 63-66).

Both the *Ding* and *Law* systems are directed to video data processing as related to random access memories (i.e., "frame store memory 112" in *Ding* and "video random access memory (VRAM) 104" in *Law*) and neither reference is directed to processing of video data as related to the storage of data in a hard disk drive.

The Examiner's Argument

The Examiner takes the position that

> "[i]t would have been obvious to one of ordinary skill in the art, having the teachings of Ding and Law before him at the time the invention was made to modify the odd/even indexing system of Ding to include the storage at different location, as did Law. One would have been motivated to make such a combination because this provides the more efficient access to the image data." (Final Office Action dated 02/24/2006, Pages 4-5).

Applicants' Response to the Examiner's Argument

Applicants respectfully submit that *Ding* fails to disclose, at a minimum, storing a plurality of odd/even index sequences of the i by j matrix <u>on a hard disk drive</u>. *Ding*, as discussed above, discloses a system and method for computing inverse discrete cosine transforms (IDCT) which are performed "to convert the data from the frequency domain to the pixel domain." (*See Ding*, Col. 3, Lines 55-62). Even though *Ding* discloses utilization of odd/even indexing of the data (e.g., encoded discrete cosine transforms or DCT coefficients) in the IDCT computation, the indexed groups utilized during the IDCT computation are not stored on a hard disk drive. Further, although *Ding* discloses that the DCT coefficients and the resulting spatial data may be stored within a memory of the video encoder or decoder system, neither the DCT coefficients nor the resulting

spatial data is stored as a plurality of odd/even index sequences. It follows, therefore, that *Ding* does not disclose storing of such odd/even indexes into hard drives. *Ding* discloses only a video encoding or decoding system having a memory for storing DCT coefficients and resulting data. (*Ding*, Col. 5, lines 13-15). However, *Ding* clearly distinguishes such "memory" from hard disk drives because the video encoder 76 and the video decoder 74 include its own memory which is completely separate from other components such as the hard drive 90. (*See Ding* Figure 2). *Ding* merely discloses an IDCT computation which utilizes odd/even indexing, but simply does not disclose storing odd/even index indexes of video data into a hard drive. On this basis alone the rejection is defective and Applicants request that the rejection be with drawn and the claims be allowed.

Applicants respectfully submit that *Law* fails to disclose, at a minimum, storing a plurality of odd/even index sequences of the i by j matrix on a hard disk drive. Furthermore, the references cited by the Examiner, either alone or in combination, do not teach, show or suggest storing a plurality of odd/even index sequences of the i by j matrix on a hard disk drive having a plurality of logic blocks, wherein at least two odd/even index sequences are stored in separate logic blocks of the hard disk drive. *Law*, as discussed above, discloses a system for improving video filter processing having a memory buffer having a first and second memory modules. (*Law*, Col. 2 lines 63-66). The memory modules 402 and 404 as shown in Figures 8A-C of *Law* clearly show that separate portions of the odd index and separate portions of the even index are respectively stored on the memory modules 402 and 404, and thus, each index has a first portion stored in one memory module and a second portion stored in the other memory module. Therefore, *Law* does not teach, show or suggest storing at least two odd/even index sequences in separate logic blocks of the hard disk drive because *Law* discloses that each memory module includes a portion of each index, and thus, failure of one memory module would affect both indexes since each memory module contains a portion of each index. Therefore, *Law* teaches away from the claimed invention.

Furthermore, Applicants submit that no motivation is provided by the references with respect to accessing data from a hard disk drive since *Law* is concerned with video "preprocessing or filtering functions performed prior to encoding". (*Law*, Col. 1, Lines

64-65). *Law* is directed to video processing before video data which has been acquired via, for example, a video camera, has been encoded, and therefore, the teachings of *Law* are not be applicable to storage and retrieval of data from a hard disk drive.

Therefore, the claims are believed to be allowable, and allowance of the claims is respectfully requested.

4. The Examiner erred in rejecting claims 3, 10, 11, 13, 18, 20, 23, and 28 under 35 U.S.C. § 103(a) as being unpatentable over *Oyamada et al.*, (U.S. Pat. No. 5,617,333, hereinafter *Oyamada*), *Law*, and *Ding*.

The Applicable Law

The Examiner bears the initial burden of establishing a *prima facie* case of obviousness. *See* MPEP § 2142. To establish a *prima facie* case of obviousness three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one ordinary skill in the art to modify the reference or to combine the reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *See* MPEP § 2143. The present rejection fails to establish at least the first and third criterion.

The References

Ding and *Law* are discussed above. *Oyamada* discloses an image data transmission system having a transmitter section which partitions an image data into a predetermined number of data blocks and a receiving section which detects and corrects transmission-caused errors in the received data blocks.

The Examiner's Argument

The Examiner takes the position that

> "[i]t would have been obvious to one of ordinary skill in the art, having the teachings of Ding, Law, and Oyamada before him at the time the invention was made to modify the image processing system of Ding and Law to use the system of estimating blocks as did Oyamada. One would have been motivated to make such a combination because with systems where large

amounts of multimedia are transferred a means of date correction is needed." (Final Office Action dated 02/24/2006, Pages 4-5).

Applicants' Response to the Examiner's Argument

As discussed above, *Ding* and *Law*, either alone or in combination, do not teach, show or suggest storing a plurality of odd/even index sequences of the i by j matrix on a hard disk drive having a plurality of logic blocks, wherein at least two odd/even index sequences are stored in separate logic blocks of the hard disk drive. *Oyamada*, as discussed above, discloses nothing further with respect to this feature. Therefore, the rejection is believed to be overcome for the reasons given above.

Furthermore, the references cited by the Examiner, either alone or in combination, do not teach, show or suggest disabling a data recovery procedure programmed on the hard disk drive prior to retrieving the data. The Examiner states that *Oyamada* teaches "disabling the default data recovery procedure of retransmitting the data, and to use a system of estimating the block with it's associated blocks" and that Oyamada teaches "in column 2, lines 46 through column 3, lines 15, replacing the convention method of retransmission in the case of errors, with the new method of interpolating a fixed value replacement for the errored portion of the image." However, such teachings are not directed to disabling a data recovery procedure programmed on a hard disk drive. The teachings of *Oyamada* are directed to transmission and reception of digital data, particularly over a low-quality transmission line such as a wireless communication network. (*Oyamada*, Col. 1, lines 7-14). Applicants respectfully submit that the cited passage merely discloses a system for correcting transmission errors and do not teach, show or suggest disabling a data recovery procedure programmed on a hard disk drive. Therefore, the rejection is believed to be defective.

Therefore, the claims are believed to be allowable, and allowance of the claims is respectfully requested.

CONCLUSION

The Examiner erred in rejecting claims 3, 13, 20, and 28 under 35 U.S.C. § 112, in rejecting claims 12, 14, 16, 17 and 25 under 35 U.S.C. § 101, in rejecting claims 1, 2, 4-9, 12, 14-17, 19, 21, 22 and 24-27 under 35 U.S.C. § 103(a) as being unpatentable over *Ding* and *Law*, and in rejecting claims 3, 10, 11, 13, 18, 20, 23, and 28 under 35 U.S.C. § 103(a) as being unpatentable over *Oyamada*, *Law*, and *Ding*. Withdrawal of the rejections and allowance of all claims is respectfully requested.

Respectfully submitted, and
S-signed pursuant to 37 CFR 1.4,

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CLAIMS APPENDIX

1. (Previously Presented) A method for processing multimedia data, comprising:

indexing the multimedia data to an i by j matrix; and

storing a plurality of odd/even index sequences of the i by j matrix on a hard disk drive having a plurality of logic blocks, wherein at least two odd/even index sequences are stored in separate logic blocks of the hard disk drive.

2. (Original) The method of claim 1 wherein the multimedia data is selected from still image data and video image data.

3. (Previously Presented) The method of claim 24, further comprising, prior to retrieving data, disabling a data recovery procedure programmed on the hard disk drive.

4. (Original) The method of claim 1 wherein the multimedia data represents an image having i times j pixels.

5. (Original) The method of claim 1 wherein the multimedia data represents an image having i times j subimages and wherein the i by j matrix corresponds to the i times j subimages.

6. (Previously Presented) The method of claim 24, wherein the multimedia data represents an image having i times j subimages and wherein the i by j matrix corresponds to the i times j subimages; further comprising:

compressing the subimages before storing the i by j matrix on the hard disk drive; and

decompressing the reconstructed i by j matrix to render the image.

7. (Previously Presented) The method of claim 1 wherein the plurality of odd/even index sequences comprises an odd/odd index sequence, an odd/even index sequence, an even/odd index sequence, and an even/even index sequence.

8. (Previously Presented) The method of claim 7 wherein the index sequences are stored in logic blocks on the hard disk drive and wherein each of the index sequences is separately stored in respective logic blocks.

9. (Previously Presented) The method of claim 7 wherein each index sequence is stored in one or more logic blocks on the hard disk drive and wherein each logic block contains portions of at most two different index sequences.

10. (Previously Presented) The method of claim 24,

wherein the plurality of odd/even index sequences comprises an odd/odd index sequence, an odd/even index sequence, an even/odd index sequence, and an even/even index sequence;

wherein each index sequence is stored separately in one or more logic blocks on the hard disk drive;

wherein the reconstructing step further comprises, when a logic block is flawed, replacing data contained in one or more portions of the index sequences contained in the flawed logic block with one or more fixed values.

11. (Previously Presented) The method of claim 24,

wherein the plurality of odd/even index sequences comprises an odd/odd index sequence, an odd/even index sequence, an even/odd index sequence, and an even/even index sequence;

wherein each index sequence is stored separately in one or more logic blocks on the hard disk drive;

wherein the reconstructing step further comprises, when a logic block is flawed, interpolating one or more replacement values for one or more portions of the index sequences contained in the flawed logic block.

12. (Previously Presented) A tangible signal bearing medium, comprising a program which, when executed by a processor, performs a method comprising:

indexing the multimedia data to an i by j matrix; and

storing a plurality of odd/even index sequences of the i by j matrix on a hard disk drive having a plurality of logic blocks, wherein at least two odd/even index sequences are stored in separate logic blocks of the hard disk drive.

13. (Previously Presented) The tangible signal bearing medium of claim 25, wherein the method further comprises, prior to retrieving data, disabling a data recovery procedure programmed on the hard disk drive.

14. (Previously Presented) The tangible signal bearing medium of claim 12 wherein the multimedia data represents an image having i times j subimages and wherein the i by j matrix corresponds to the i times j subimages.

15. (Previously Presented) The tangible signal bearing medium of claim 25, wherein the multimedia data represents an image having i times j subimages, wherein the i by j matrix corresponds to the i times j subimages, and wherein the method further comprises:

compressing the subimages before storing the i by j matrix on the hard disk drive; and

decompressing the reconstructed i by j matrix to render the image.

16. (Previously Presented) The tangible signal bearing medium of claim 12 wherein the plurality of odd/even index sequences comprises an odd/odd index sequence, an odd/even index sequence, an even/odd index sequence, and an even/even index sequence.

17. (Previously Presented) The tangible signal bearing medium of claim 16 wherein each index sequence is stored in one or more logic blocks on the hard disk drive and wherein each logic block contains portions of at most two different index sequences.

18. (Previously Presented) The tangible signal bearing medium of claim 25,

wherein the plurality of odd/even index sequences comprises an odd/odd index sequence, an odd/even index sequence, an even/odd index sequence, and an even/even index sequence;

wherein each index sequence is stored separately in one or more logic blocks on the hard disk drive; and

wherein the reconstructing step of the method further comprises, when a logic block is flawed, interpolating one or more replacement values for one or more portions of the index sequences contained in the flawed logic block.

19. (Previously Presented) An apparatus for processing multimedia data, comprising:

a processor;

a memory connected to the processor; and

one or more storage devices for storing multimedia data connected to the processor, wherein the processor is configured to perform a method for processing multimedia data, comprising:

indexing the multimedia data to an i by j matrix; and

storing a plurality of odd/even index sequences of the i by j matrix on a hard disk drive having a plurality of logic blocks, wherein at least two odd/even index sequences are stored in separate logic blocks of the hard disk drive.

20. (Previously Presented) The apparatus of claim 26 wherein the processor is further configured to disable a data recovery procedure programmed on the hard disk drive, prior to retrieving the data.

21. (Previously Presented) The apparatus of claim 19 wherein the plurality of odd/even index sequences comprises an odd/odd index sequence, an odd/even index sequence, an even/odd index sequence, and an even/even index sequence.

22. (Previously Presented) The apparatus of claim 21 wherein the processor is further configured to store each index sequence in one or more logic blocks on the hard disk drive and wherein each logic block contains portions of at most two different index sequences.

23. (Previously Presented) The apparatus of claim 26,

wherein the plurality of odd/even index sequences comprises an odd/odd index sequence, an odd/even index sequence, an even/odd index sequence, and an even/even index sequence;

wherein the processor is further configured to store each index sequence separately in one or more logic blocks on the hard disk drive; and

wherein, when reconstructing the matrix, the processor is further configured to interpolate one or more replacement values, when a logic block is flawed, for one or more of the index sequences contained in the flawed logic block.

24. (Previously Presented) The method of claim 1, further comprising:

retrieving data comprising the stored index sequences from the hard disk drive; and

reconstructing the i by j matrix utilizing odd/even index sequencing of the retrieved data.

25. (Previously Presented) The tangible signal bearing medium of claim 12, wherein the method further comprises:

retrieving data comprising the stored index sequences from the hard disk drive; and

reconstructing the i by j matrix utilizing odd/even index sequencing of the retrieved data.

26. (Previously Presented) The apparatus of claim 19, wherein the processor is further configured to retrieve data comprising the stored index sequences from the hard

disk drive and to reconstruct the i by j matrix utilizing odd/even index sequencing of the retrieved data.

27. (Previously Presented) A method for processing multimedia data, comprising:

retrieving data from a data storage device, wherein the data comprises a plurality of odd/even index sequences of an i by j matrix representing multimedia data, wherein at least two odd/even index sequences are stored in at least two respective logic blocks on a hard disk drive; and

reconstructing the i by j matrix utilizing odd/even index sequencing of the retrieved data.

28. (Previously Presented) The method of claim 27, further comprising, prior to retrieving the data, disabling a data recovery procedure programmed on the hard disk drive, and wherein the reconstructing step further comprises, when a logic block is flawed, replacing data contained in one or more portions of the index sequences contained in the flawed logic block with at least one of a fixed value and an interpolated value.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.